Generative Recommendation: Towards Next-generation Recommender Paradigm

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Abstract

Recommender systems typically retrieve items from an item corpus for personalized recommendations. However, such a retrieval-based recommender paradigm faces two limitations: 1) the human-generated items in the corpus might fail to satisfy the users' diverse information needs, and 2) users usually adjust the recommendations via inefficient passive feedback, e.g., clicks. Nowadays, AI-Generated Content (AIGC) has revealed significant success, offering the potential to overcome these limitations: 1) generative AI can produce personalized items to satisfy users' information needs, and 2) the newly emerged large language models significantly reduce the efforts of users to precisely express information needs via natural language instructions. In this light, the boom of AIGC points the way towards the next-generation recommender paradigm with two new objectives: 1) generating personalized content through generative AI, and 2) integrating user instructions to guide content generation. To this end, we propose a novel Generative Recommender paradigm named GeneRec, which adopts an AI generator to personalize content generation and leverages user instructions. Specifically, we pre-process users' instructions and traditional feedback via an instructor to output the generation guidance. Given the guidance, we instantiate the AI generator through an AI editor and an AI creator to repurpose existing items and create new items. Eventually, GeneRec can perform content retrieval, repurposing, and creation to satisfy users' information needs. Besides, to ensure the trustworthiness of the generated items, we emphasize various fidelity checks. Moreover, we provide a roadmap to envision future developments of GeneRec and several domain-specific applications of GeneRec with potential research tasks. Lastly, we study the feasibility of implementing AI editor and AI creator on micro-video generation.